

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-6: Canceled

Claim 7 (currently amended): A vacuum plasma processor for processing workpieces comprising a vacuum chamber having an inlet for supplying gas to the chamber; an electrode arrangement, including a semiconductor member, for ionizing gas in the chamber to a plasma, a coil outside the chamber for generating an electromagnetic field for ionizing gas in the chamber to a plasma, a non-magnetic metal arrangement interposed between the coil and the semiconductor member; the coil, non-magnetic metal arrangement and semiconductor member being positioned and arranged for preventing substantial electric field components of the electromagnetic field from being incident on the semiconductor member while enabling substantial electric and magnetic field components from the coil to be incident on the gas for ionizing the gas, the chamber including a dielectric window interposed between the coil and the chamber and arranged for coupling the electromagnetic field to the chamber, the dielectric window being interposed between the coil and the semiconductor member, and the non-magnetic metal arrangement including a member abutting the semiconductor member. ~~The vacuum plasma processor of claim 3 wherein~~ the dielectric window, semiconductor member and non-magnetic metal arrangement ~~[[are]]~~ being in a roof structure of the chamber, the chamber having a center portion, the coil having an interior portion that is spaced from the chamber center portion so peripheral portions of the semiconductor member are not outside the coil interior portion, the non-magnetic metal arrangement having peripheral portions spaced from the chamber center portion by approximately the same distance as the semiconductor member peripheral portions.

Claim 8 (previously presented): The vacuum plasma processor of claim 7 wherein the non-magnetic metal arrangement includes first and second members respectively abutting and spaced from the semiconductor member, the first and second non-magnetic metal members having approximately aligned peripheries, each of the first and second non-magnetic metal members having a periphery outside the periphery of the semiconductor member to such an extent that the

first and second non-magnetic members do not prevent the electric and magnetic field components from the coil from being incident on the plasma.

Claim 9 (previously presented): The vacuum plasma processor of claim 7 wherein the chamber has a circular interior wall having a first diameter, the non-magnetic metal arrangement including a member having a circular periphery having a second diameter, the semiconductor member having a circular periphery having a third diameter; the chamber interior wall, the non-magnetic metal member and the semiconductor member being co-axial, the first diameter being greater than the second diameter, and the second diameter being approximately equal to the third diameter.

Claim 10 (previously presented): The vacuum plasma processor of claim 9 wherein the coil is substantially co-axial with the chamber interior wall and has a substantially circular innermost turn having a diameter approximately equal to the third diameter.

Claim 11 (previously presented): The vacuum plasma processor of claim 10 wherein the non-magnetic metal member is adjacent the semiconductor member and the second diameter is slightly greater than the third diameter.

Claim 12 (previously presented): The vacuum plasma processor of claim 10 wherein the non-magnetic metal member is adjacent the coil and has a diameter slightly less than the interior diameter of the coil innermost turn.

Claim 13 (previously presented): The vacuum plasma processor of claim 10 wherein the non-magnetic metal arrangement includes first and second circular members co-axial with the chamber interior wall, the first circular member being adjacent the semiconductor member and the second diameter being slightly greater than the third diameter, the second circular member being adjacent the coil and having a diameter slightly less than the interior diameter of the coil innermost turn.

Claim 14 (previously presented): The vacuum plasma processor of claim 13 wherein the first circular member abuts the semiconductor member and is carried by the dielectric window so the semiconductor member is in the chamber, the second circular member and the coil being carried by the dielectric window so they are outside the chamber, the periphery of the second member being electrically insulated from the coil.

Claims 15-24: (canceled)

Claim 25 (original): A vacuum plasma processor for processing workpieces comprising a vacuum chamber having an inlet for supplying gas to the chamber; an electrode arrangement, including a semiconductor member, for ionizing gas in the chamber to a plasma, a coil outside the chamber for generating an electromagnetic field for ionizing gas in the chamber to a plasma, a non-magnetic metal arrangement interposed between the coil and the semiconductor member; the coil, non-magnetic metal arrangement and semiconductor member being positioned and arranged so (a) no portion of the semiconductor member is outside the interior of an inner turn of the coil and (b) the non-magnetic metal arrangement includes a member having a periphery approximately aligned with the interior of the coil inner turn.

Claim 26 (original): The vacuum plasma processor of claim 25 wherein the chamber includes a dielectric window interposed between the coil and the chamber and arranged for coupling the electromagnetic field to the chamber.

Claim 27 (original): The vacuum plasma processor of claim 26 wherein the chamber has a circular interior wall having a first diameter, the non-magnetic metal arrangement including a member having a circular periphery having a second diameter, the semiconductor member having a circular periphery having a third diameter; the chamber interior wall, the non-magnetic metal member and the semiconductor member being co-axial, the first diameter being greater than the second diameter, and the second diameter being approximately equal to the third diameter.

Claim 28 (original): The vacuum plasma processor of claim 27 wherein the coil is substantially co-axial with the chamber interior wall and has a substantially circular innermost

turn having a diameter approximately equal to the third diameter.

Claim 29: (previously presented): The vacuum plasma processor of claim 28 wherein the non-magnetic metal member is adjacent the semiconductor member and the second diameter is slightly greater than the third diameter.

Claim 30: (previously presented): The vacuum plasma processor of claim 28 wherein the non-magnetic metal member is adjacent the coil and has a diameter slightly less than the interior diameter of the coil innermost turn.

Claim 31: (previously presented): The vacuum plasma processor of claim 28 wherein the non-magnetic metal arrangement includes first and second circular members co-axial with the chamber interior wall, the first circular member being adjacent the semiconductor member and the second diameter is slightly greater than the third diameter, the second circular member being adjacent the coil and has a diameter slightly less than the interior diameter of the coil innermost turn.

Claim 32: (original): The vacuum plasma processor of claim 31 wherein the first circular member abuts the semiconductor member and is carried by the dielectric window so the semiconductor member is in the chamber, the second circular member and the coil being carried by the dielectric window so they are outside the chamber, the periphery of the second member being electrically insulated from the coil.

Claims 33-39: (canceled)

Claim 40 (previously presented): The vacuum plasma processor of claim 7 further including a power supply arrangement for supplying RF ion energization to the coil and the workpiece and for supplying (a) voltages to the semiconductor member and the non-magnetic metal arrangement and (b) a reference voltage to a metal wall of the chamber.

Claim 41 (previously presented): The vacuum plasma processor of claim 40 wherein the power supply arrangement is arranged for supplying the reference voltage to the semiconductor member.

Claim 42 (previously presented): The vacuum plasma processor of claim 41 wherein the power supply arrangement is arranged for supplying the reference voltage to the non-magnetic metal arrangement.

Claim 43 (previously presented): The vacuum plasma processor of claim 40 wherein the power supply arrangement is arranged for supplying the reference voltage to the non-magnetic metal arrangement.

Claim 44 (previously presented): The vacuum plasma processor of claim 40 wherein the power supply arrangement is arranged for supplying an RF energization voltage to the semiconductor member.

REMARKS

Claims 1-6, 15-18, 19-24, and 33-39 are canceled, without prejudice, and with the right to file a continuation application thereon.

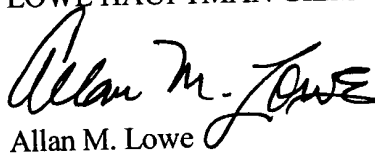
Claim 7 has been amended and is now an independent claim, incorporating the limitations of claims 1-3, upon which claim 7 depended. Since claims 8-14 and 40-44 depend on claim 7, which contains allowable subject matter, and the dependency on the rejected base claim has been removed, the Examiner's objection thereto has been obviated

In view of the foregoing amendments and remarks, respectfully requested and deemed in order.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

LOWE HAUPTMAN GILMAN & BERNER, LLP



Allan M. Lowe
Registration No. 19,641

USPTO Customer No. 22429
1700 Diagonal Road, Suite 300
Alexandria, VA 22314
(703) 684-1111
(703) 518-5499 Facsimile
Date: October 23, 2003
AML/PJC